## QC ABSTRACT

**NAME OF WORK:** Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division

| SL NO | Item Of Work | Name of Test | Frequency of Test/Quantity | Executed Quantity | Number of Tests Required | Number of Tests Conducted |
|---|---|---|---|---|---|---|
| | | Materials | | | | |
| 1 | Cement | Fineness by dry sieving | One Test | | 1 | 1 |
| | | Finess by Air permeablity method | One Test | | 1 | 1 |
| | | Density | One Test | | 1 | 1 |
| | | Standard Consistency | One Test | | 1 | 1 |
| | | Initial Setting time | One Test | | 1 | 1 |
| | | Final Setting time | One Test | | 1 | 1 |
| | | Soundness (Le Chatelier's Method) | One Test | | 1 | 1 |
| | | Compressive Strength | One Test | | 1 | 1 |
| 2 | Coarse aggregate(40 mm down size) | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Flakiness Index | One Test | | 1 | 1 |
| | | Elongation Index | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Bulk Density(Loose) | One Test | | 1 | 1 |
| | | Bulk Density(Compacted) | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| 3 | Coarse aggregate(20 mm down size) | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Flakiness Index | One Test | | 1 | 1 |
| | | Elongation Index | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Bulk Density(Loose) | One Test | | 1 | 1 |
| | | Bulk Density(Compacted) | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| | | Aggregate crushing Value | One Test | | 1 | 1 |
| | | Aggregate Impact Value | One Test | | 1 | 1 |
| 4 | Fine aggregate | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Material finer than 75 micron | One Test | | 1 | 1 |
| 5 | Steel | Bend test | One Test | | 1 | 1 |
| | | Tensile Test | One Test | | 1 | 1 |
| | | Yield Test | One Test | | 1 | 1 |
| | | ReBend test | One Test | | 1 | 1 |
| 6 | RCC(M25) | Compressive Strength(7days and 28days) | 4 set /31-100 cum | 30.66 | 8 | 8 |
| 7 | Block(400*200*200) | BLOCK DENSITY | One Test | | 1 | 1 |
| | | WATER ABSORPTION | One Test | | 1 | 1 |
| | | DIMENSION ANALYSIS | One Test | | 1 | 1 |
| | | COMPRESSIVE STRENGTH | One Test | | 1 | 1 |
| 8 | Mortar Sand | Water Absorption | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Material finer than 75 micron | One Test | | 1 | 1 |
| | | Compacted Bulk Density | One Test | | 1 | 1 |
| | | Loose Bulk Density | One Test | | 1 | 1 |
| | | SIEVE ANALYSIS | One Test | | 1 | 1 |
| 9 | Plaster Sand | Water Absorption | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Material finer than 75 micron | One Test | | 1 | 1 |
| | | SIEVE ANALYSIS | One Test | | 1 | 1 |

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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | CP-2020-12-03-09 **Date: 22-05-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 19-05-20 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988<br>IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 20-05-20 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| SLNo. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 2.1 | _ |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 284.5 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.13 | _ |
| 4 | Standard Consistency (%) | 28% | Not specified |
| 5 | Initial Setting time | 155 minutes | Not less than 30 minutes |
| 6 | Final Setting time | 260 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) | 2mm | Not more than 10 mm |

* The results obtained are satisfactory as per standard requirements.

**Note:**

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

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Quality Manager

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 22-05-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 19-05-20 |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 19-05-20 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken** : **15000** **grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80 mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 214 | 214 | 1.4 | 98.6 | 90-100 |
| 3 | 20 mm | 7254 | 7468 | 49.8 | 50.2 | 30-70 |
| 4 | 10 mm | 4442 | 11910 | 79.4 | 20.6 | 10-35 |
| 5 | 4.75 mm | 2685 | 14595 | 97.3 | 2.7 | 0-5 |
| 6 | Pan | 405 | 15000 | 100.0 | 0 | --- |



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# TEST REPORT OF CEMENT CONCRETE CUBES

Date: 24/06/2020

| | | |
|---|---|---|
| Lab ID | : | CP-2020-12-03-09 |
| Customer | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Project Name | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| Agency | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| Customer's Reference | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 29-05-20 |
| Customer ID | : | RCC |
| Sample Type /Size | : | 150X150X150 mm |
| Sample grade/Age | : | M25 / 28 Days Compressive Strength |
| Reference to BIS codes | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| Date of test | : | 24/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.57 X 150.92 X 149.68 | 22725 | 8.940 | 633.3 | 27.9 | 27.5 |
| 2 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.26 X 150.61 X 151.68 | 22631 | 8.133 | 592.6 | 26.2 | |
| 3 | RCC | M25 | 27/05/2020 | 24/06/2020 | 149.26 X 150.99 X 150.29 | 22538 | 8.367 | 639.7 | 28.4 | |

* The results obtained are satisfactory as per standard requirements.

Note:
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Authorized Signatory
Quality Manager

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# TEST REPORT FOR SAND MASONRY MORTARS

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 04-06-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 01-06-20 |
| **Sample Type** | : | Fine Aggregate, M.Sand for Mortar |
| **Reference to BIS codes** | : | IS 383 : 2016 (Specification for Coarse and fine Aggregates)<br>IS: 2116-1980 (RA-2007) (Specification for Sand for Masonry Mortars)<br>IS: 2386 :1963(Part - 1, 3) RA2012<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption |
| **Date of test** | : | 01-06-20 |
| **Total weight taken** | : | 1000 grams |

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS: 2116-1980 (RA-2007) |
|---|---|---|---|---|---|---|
| 1 | 4.75 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 2.36 mm | 85 | 85 | 8.5 | 91.5 | 90-100 |
| 3 | 1.18 mm | 200 | 285 | 28.5 | 71.5 | 70-100 |
| 4 | 600 micron | 146 | 431 | 43.1 | 56.9 | 40-100 |
| 5 | 300 micron | 116.5 | 547.5 | 54.8 | 45.3 | 5-70 |
| 6 | 150 micron | 412.5 | 960 | 96.0 | 4.0 | 0-15 |
| 7 | Pan | 40 | 1000 | 100.0 | 0.0 | 0 |



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# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | CP-2020-12-03-09 **Date: 03/06/2020** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-05-20 |
| **Customer ID** | : | RCC |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M25 / 7 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 03/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 03/06/2020 | 151.14 X 151.27 X 149.07 | 22862 | 8.253 | 540.2 | 23.6 | 22.8 |
| 2 | RCC | M25 | 27/05/2020 | 03/06/2020 | 151.82 X 150.69 X 149.89 | 22877 | 8.258 | 517.0 | 22.6 | |
| 3 | RCC | M25 | 27/05/2020 | 03/06/2020 | 151.47 X 150.55 X 149.60 | 22803 | 8.838 | 508.6 | 22.3 | |

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 24/06/2020** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-05-20 |
| **Customer ID** | : | RCC |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M25 / 28 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 24/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.02 X 149.19 X 150.63 | 22382 | 8.940 | 625.5 | 27.9 | 27.5 |
| 2 | RCC | M25 | 27/05/2020 | 24/06/2020 | 151.96 X 150.06 X 151.70 | 22804 | 8.133 | 597.2 | 26.2 | |
| 3 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.25 X 150.92 X 151.56 | 22675 | 8.367 | 641.0 | 28.3 | |

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## TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 02-06-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.P 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 30-05-20 |
| **Sample Type/Size** | : | Solid concrete blocks size (400X100X200)mm |
| **Reference to BIS codes** | : | IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10) |
| **Date of test** | : | 30-05-20 |

**BLOCK DENSITY:**

| Sl. No. | Measurement of overall Dimensions of Individual Blocks | | | Overall Volume of the Block in Cubic Centimetres | Weight of Oven Dried Block in Kilograms to the nearest 10 Gram | Block Density in Kg/cum*$10^6$ | Avg.Block Density in (Kg/cum) | As per IS 2185(Part 1) :2005 (RA 2010) |
|---|---|---|---|---|---|---|---|---|
| | Length | Breadth | Height | | | | | |
| | mm | mm | mm | ($Cm^3$) | Kg | $Kg/m^3$ | $Kg/m^3$ | |
| 1 | 403 | 200 | 201 | 16201 | 32.741 | 2021.0 | 1980.3 | Not less than 1800$Kg/m^3$ |
| 2 | 402 | 200 | 203 | 16321 | 31.683 | 1941.2 | | |
| 3 | 403 | 198 | 203 | 16198 | 32.051 | 1978.7 | | |

**WATER ABSORPTION:**

| Sl. No. | Wet weight after water absorption | Dry weight (Oven dry) | Water Absorption | Avg.Water Absorption | As per IS 2185(Part 1):2005 (RA 2010) |
|---|---|---|---|---|---|
| | kg | kg | % | % | |
| 1 | 33.91 | 32.25 | 4.89 | 4.25 | Shall not be more than 10% by mass |
| 2 | 33.57 | 32.14 | 4.28 | | |
| 3 | 33.44 | 32.24 | 3.59 | | |



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## TEST RESULTS OF STEEL

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 25-05-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 23-05-20 |
| **Sample Type** | : | Sunvik |
| **Reference to BIS codes** | : | IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012. |
| **Date of test:** | : | 23-05-20 |

| SLNo | Identification of sample | Grade of the sample | Diameter of the steel bar | Weight of the sample | Yield stress | Tensile strength | Elongation | Bend test | Rebend test |
|---|---|---|---|---|---|---|---|---|---|
| | | | (mm) | (kg/m) | (N/mm2) | (N/mm2) | (%) | | |
| 1 | Sunvik | Fe500 | 8 | 0.391 | 512 | 652 | 20.0% | Satisfactory | Satisfactory |
| 2 | Sunvik | Fe500 | 10 | 0.616 | 528 | 672 | 20.0% | Satisfactory | Satisfactory |
| 3 | Sunvik | Fe500 | 12 | 0.888 | 544 | 668 | 20.0% | Satisfactory | Satisfactory |

* The results obtained are satisfactory as per standard requirements.

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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
# 4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: TC-5548

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 03/06/2020** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-05-20 |
| **Customer ID** | : | RCC |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M25 / 7 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 03/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 03/06/2020 | 149.90 X 151.84 X 151.15 | 22761 | 8.253 | 545.7 | 24.0 | 22.9 |
| 2 | RCC | M25 | 27/05/2020 | 03/06/2020 | 150.14 X 150.78 X 150.11 | 22638 | 8.258 | 508.6 | 22.5 | |
| 3 | RCC | M25 | 27/05/2020 | 03/06/2020 | 149.17 X 151.50 X 151.79 | 22598 | 8.838 | 502.0 | 22.2 | |

* The results obtained are satisfactory as per standard requirements.

Note:
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FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| Lab ID | : | CP-2020-12-03-09 Date: 24/06/2020 |
| Customer | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Project Name | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| Agency | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| Customer's Reference | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 29-05-20 |
| Customer ID | : | RCC |
| Sample Type /Size | : | 150X150X150 mm |
| Sample grade/Age | : | M25 / 28 Days Compressive Strength |
| Reference to BIS codes | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| Date of test | : | 24/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 24/06/2020 | 151.31 X 150.64 X 150.62 | 22794 | 8.940 | 628.2 | 27.6 | 27.5 |
| 2 | RCC | M25 | 27/05/2020 | 24/06/2020 | 151.32 X 151.41 X 149.61 | 22911 | 8.133 | 603.6 | 26.3 | |
| 3 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.88 X 149.34 X 151.10 | 22532 | 8.367 | 640.9 | 28.4 | |

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# 4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: TC-5548

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# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 03/06/2020** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer's Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-05-20 |
| **Customer ID** | : | RCC |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M25 / 7 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 03/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 03/06/2020 | 151.58 X 150.56 X 151.80 | 22821 | 8.253 | 530.4 | 23.2 | 22.5 |
| 2 | RCC | M25 | 27/05/2020 | 03/06/2020 | 152.00 X 150.14 X 149.81 | 22821 | 8.258 | 503.2 | 22.1 | |
| 3 | RCC | M25 | 27/05/2020 | 03/06/2020 | 149.42 X 149.12 X 150.89 | 22282 | 8.838 | 497.9 | 22.3 | |

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Authorized Signatory
Quality Manager


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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| Lab ID | : | CP-2020-12-03-09 Date: 24/06/2020 |
| Customer | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Project Name | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| Agency | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| Customer's Reference | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 29-05-20 |
| Customer ID | : | RCC |
| Sample Type /Size | : | 150X150X150 mm |
| Sample grade/Age | : | M25 / 28 Days Compressive Strength |
| Reference to BIS codes | : | IS. 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| Date of test | : | 24/06/2020 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.62 X 150.31 X 151.76 | 22641 | 8.940 | 629.3 | 27.8 | 27.7 |
| 2 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.27 X 149.49 X 150.13 | 22465 | 8.133 | 597.2 | 26.6 | |
| 3 | RCC | M25 | 27/05/2020 | 24/06/2020 | 150.09 X 150.14 X 151.53 | 22535 | 8.367 | 645.5 | 28.6 | |

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Authorized Signatory
Quality Manager


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Format No: CP/TF/01

## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2020-12-03-09** **Date: 21-05-20** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| **Agency** | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| **Customer Reference** | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 19-05-20 |
| **Sample Type/ Size** | : | 20mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 19-05-20 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:**

**Total weight taken** : **5000** **grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 40 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 20 mm | 237 | 237 | 4.7 | 95.3 | 90-100 |
| 3 | 10 mm | 2544 | 2781 | 55.6 | 44.4 | 25-55 |
| 4 | 4.75 mm | 2107 | 4888 | 97.8 | 2.2 | 0-10 |
| 5 | Pan | 112 | 5000 | 100 | 0 | – |

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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2020-12-03-09** **Date: 21-05-20**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 10.7 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 11.4 | |
| 3 | Specific Gravity | 2.65 | – |
| 4 | Bulk Density(Loose) (Kg/l) | 1.53 | – |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.57 | – |
| 6 | Water Absorption(%) | 0.19 | – |
| 7 | Aggregate crushing Value(%) | 25.6 | Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface. |
| 8 | Aggregate Impact Value(%) | 22.5 | 30% for Aggregates to be used in concrete for wearing Surface,<br>45% for Aggregates to be used in concrete other than for wearing Surface. |

* The results obtained are satisfactory as per standard requirements.

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**FOR CIVIL Pro.**

**R KARTHIK RECHAN**
Authorized Signature
**Quality Manager**


*End of Report*

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Format No: CP/TF/01

# TEST REPORT OF FINE AGGREGATE

Date: 21-05-20

| | | |
|---|---|---|
| Lab ID | : | CP-2020-12-03-09 |
| Customer | : | Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Satellite Town Sub Division, BBMP, Bangalore. |
| Project Name | : | Providing Water Supply and Drilling of Borewells and RO Plant in Ward No:03 and 04 of Yelahanka New Town Sub Division |
| Agency | : | Sri.A.Putturaju, No.B 48/5, Puttunilaya, Pipeline, B cross, Bahubalinagara, Jalahalli, Bangalore-560013 |
| Customer's Reference | : | BBMP/EE/YNK.D/EPMT-15/W.O/19/2020-21 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 19-05-20 |
| Sample Type | : | Fine Aggregate |
| Reference to BIS codes | : | IS 383 : 2016 (Specification for Coarse and fine Aggregates)<br>IS: 2386 :1963(Part - 1, 3) RA2012<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption |
| Date of test | : | 19-05-20 |
| Total weight taken | : | 1000 grams |

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 27 | 27 | 2.7 | 97.3 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 55 | 82 | 8.2 | 91.8 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 239 | 321 | 32.1 | 67.9 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 205 | 526 | 52.6 | 47.4 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 203 | 729 | 72.9 | 27.1 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 191 | 920 | 92.0 | 8.0 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 80 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**



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